

REMARKS

Claims 1, 3 - 5, 7, 8, 10 – 12 and 14 - 16 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 5, 7 – 8, 12 and 14 - 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki et al. (U.S. Pat. No. 5,970,384; hereinafter Yamazaki '384) in view of Zhang et al. (U.S. Pat. No. 2003/0122131 A1), Grill et al. (U.S. Pat. No. 2002/0037442 A1) and Yamazaki et al. (U.S. Pat. No. 2002/0034863 A1; hereinafter Yamazaki '863). This rejection is respectfully traversed.

The Examiner alleges that Yamazaki '384 teaches the claimed invention substantially as claimed, but fails to teach an interface level density between the semiconductor layer and the gate insulating film being no less than $10^{-11}\text{cm}^{-2}\text{eV}^{-1}$; setting the substrate temperature at no higher than 100C; and heat-treating the gate insulating film in an atmosphere containing water. Notwithstanding, the Examiner alleges that the claimed invention would have been obvious because Zhang allegedly teaches the claimed interface level density, Grill allegedly teaches setting the substrate temperature between about 25C and about 400C, and Yamazaki '863 allegedly teaches heat-treating in an atmosphere containing water.

Applicants respectfully assert, however, that the Yamazaki '863 reference does not qualify as prior art. More specifically, Applicants note that the present invention claims priority under 35 U.S.C. § 119 to Japanese patent applications 2001-263559 filed

August 31, 2001, and 2000-267286 filed September 4, 2000. The priority claim to JP 2000-267286 is before the Yamazaki '863 U.S. filing date of July 27, 2001. As such, the present invention has a priority date that antedates the U.S. filing date of the Yamazaki '863 reference. Applicants, therefore, hereby perfect their claim of priority to Japanese patent applications 2001-263559 and 2000-267286 by providing English translations of these documents. Accordingly, Applicants respectfully request that the Yamazaki '863 reference be removed as prior art.

Since the Yamazaki '863 reference does not qualify as prior art, Applicants respectfully assert that the claimed invention would not have been obvious. That is, the claimed method including the step of heat-treating the gate insulating film in an atmosphere containing water would not have been obvious.

Moreover, Applicants respectfully assert that the Zhang reference does not teach the claimed interface density level as asserted by the Examiner. More specifically, the claimed interface density level between the semiconductor layer and the gate insulating film is no greater than $10^{11} \text{cm}^{-2} \text{eV}^{-1}$. Please note the units of $\text{cm}^{-2} \text{eV}^{-1}$. In contrast, Zhang merely teaches at paragraph [0093] an interface density level of 10^{-11}cm^{-2} or lower. There is no teaching, suggestion, or motivation for an interface density level including electron volts (eV). Since this aspect of the claimed method is neither taught nor suggested, the claimed invention would not have been obvious.

Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 3- 4 and 10 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (U.S. Pat. No. 5,970,384), Zhang et al. (U.S. Pat. No.

2003/0122131 A1). Grill et al. (U.S. Pat. No. 2002/0037441 A1) and Yamazaki et al. (U.S. Pat. No. 2002/0034863 A1) as applied to claims 1, 5, 7 – 8, 12 and 14 – 16 above, and further in view of An et al. (U.S. Pat. No. 6,245,618 B1).

Claims 3-4 and 10-11 are ultimately dependent on independent claim 1, addressed above. These claims are not obvious for at least the same reasons.

Reconsideration and withdrawal of this rejection, therefore, is respectfully requested.

ALLOWABLE SUBJECT MATTER

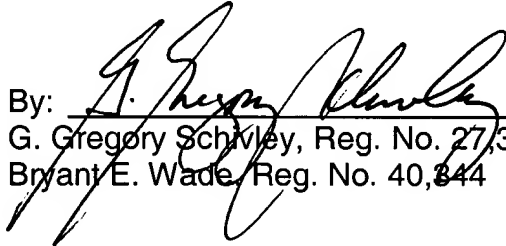
Applicants acknowledge, with thanks, the allowable subject matter of claims 2, 6, 9 and 13.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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